CERRO COPPER & BRASS COMPANY
DIVISION OF CERRO CORPORATION

ST. LOUIS WORKS
1111 CHOUTEAU AVENUE
ST. LOUIS 2 • MISSOURI
314•CHESTNUT 1•1975

July 17, 1964

Mr. Eric P. Newman
6450 Cecil
Clayton 5, Missouri

Dear Mr. Newman:

The attached copy of the "Norelco Reporter" contains a number of articles on X-Ray Diffraction Analysis. I do not believe there is any information contained therein which specifically meets your requirement but I thought I would send it on to you anyhow. Thus far I have found very little published data on this subject and since this does contain quite a bit, even though it is highly technical, it may be of some help to you.

I will continue to look for something that will be more useful to you, particularly on my next trip East. As far as I have been able to learn, no one in this area uses X-Ray diffraction method of analysis, probably because of its high cost and specalized nature.

Very truly yours,

S A Silverstein

S. A. Silverstein,
Works Manager

SAS:dr
Encl.

August 4, 1964

Mr. S. A. Silverstein
Cerro Copper & Brass Company
1111 Chouteau Avenue
St. Louis 2, Missouri

Dear Mr. Silverstein:

You were very nice to remember my request for information concerning X-ray Diffraction and the articles you sent me are beyond my comprehension but I can at least write to the parties who wrote them.

While recently in England, I went to the Royal Mint and experimented with a surface x-ray diffraction spectrometer. I asked how deeply it measured and they did not have the answer. It is, of course, much more important to have the rays pass directly through the material.

If you learn anything more, I would be very grateful.

Cordially,

ERIC P. NEWMAN

EPN/atb

Bob Lamping
Modern Engineering
3411 Pine Ave

JE 3-7250 1221 Locust [illegible] 1/13/65

Conducting plastic
Platable plastic

Cyclolac
Borg Warner

Heat vacuum mold to produce negative

Electro with nickel
or
chromium ← hardest
or
combination

Explosion forming can be done with copper
this can be cheaply done.
does not have to be hot.

Powdered metal under pressure will make negative.

Styrene plastic to make positive
Dip positive into ceramic slurry for plating with ~~[illegible]~~ ceramic clay.
Baked at 1900° · hardens ceramic
melts out plastic
Ready for centrifugal casting.
then make Stainless steel or any other metal cast
Process developed by N.A.S.A. with last 2 years.

Dear Eric:

I am enclosing the reply from Brown & Sharpe Company in answer to my questions about the cross feed on the lathe and its being geared to the spindle.

It appears that this is another of those inventions that was lost in the early industrial revolution when many tool makers kept inventions under wraps as trade secrets instead of filing for patent. Henry Maudsley, I believe, is an English inventor and an inspection of his work may be in order. Great Britian was more sophisticated than we were at this time as far as machine tools are concerned.

Brown & Sharpe Company is about the oldest tool maker in the United States and I am confident in their information, although it bears checking.

Hoping that this information will be of assistance

Yours: Bob

Brown & Sharpe Manufacturing Company
NORTH KINGSTOWN, R. I. 02853 U. S. A.

February 4, 1965

Mr. R. F. Lamping
1221 Senate Drive
Saint Louis, Missouri 63138

Dear Mr. Lamping:

In reference to your letter dated January 28, 1965 addressed to our Mr. George Hawkins, we find that a screw cutting lathe developed about the year 1800 appears to use those features in which you are interested. Our patent files date back to approximately 1830 and we are unable to refer to specific patent numbers. However, we do find reference to this arrangement in a book titled "English and American Tool Builders" by Joseph Wickham Roe published by the Yale University Press. Chapter IV relating to Henry Maudslay appears to cover the requested information. This book should be available at your local library.

1916

Merc
TF
R62

We trust the above will be of help and interest to you.

Yours very truly,

Lester Raymond

Lester Raymond
Patent Department

LR:rcf

FORM #105

February 9, 1965

MEMORANDUM

TO Mr. Robert F. Lamping

FROM Eric P. Newman

Dear Bob:

Thank you for your note concerning the automatic cross feed. I believe Mr. Lester Raymond, who answered your letter, missed the point. His entire letter is directed to the screw cutting lathe.

I am sure that if his files go back to 1830, he would be able to find the gearing of the cross feet to the horizontal spindle. Perhaps you might write him again.

For your convenience I am enclosing a photocopy of his letter.

Kindest regards,

Sincerely,

EPN/atb

June 2, 1965

Cincinnati Milling Machine Company
4701 Marburg
Cincinnati, Ohio

Attention: Mr. Howard T. Keiser

Gentlemen:

In connection with some research we are doing on counterfeiting of nineteenth century American coinage, it has become necessary for me to determine when the automatic crossfeed on a lathe was first invented. One of the questioned coins shows that the field of the die contains a perfect helix with lines less than 1/64th of an inch apart. The tool which cut the blank for the die was obviously driven by an automatic crossfeed on a lathe.

While the horizontal feed on a lathe was invented about the year 1800 for screw cutting, I have not been able to find out when a crossfeed was developed which was driven from the horizontal worm, which, in turn, was coordinated in speed with the rotating work. In other words, I want to know when the mechanism was invented permitting the tool to face off the surface of the rotating work by advancing at a uniform rate.

I sincerely hope that you will be able to help me from the information you have on hand.

If there is any other information about our project which you need, I will be glad to furnish it.

Sincerely yours,

ERIC P. NEWMAN NUMISMATIC
EDUCATION SOCIETY

EPN/atb

June 4, 1965

Messrs. Don Allison and Dan Lamar
LaDonn Castings
12337 Brandford Street
Sun Valley (Burbank), California

Gentlemen:

We needed some information concerning forgery of coins and Mr. Ray Strother, of St. Louis, Missouri, suggested that we write you.

There are at present emanating from Europe, and perhaps from the United States, very deceptive copies of rare coins which are die struck. For a while the dies, apparently, were made by impact of a coin or an electrotype of a coin against hot steel but such dies required a small amount of hand finishing which enabled the coins to be readily identified as forgeries. However, some forged dies must have been made from genuine coins, without any engraving, and we would like to know how this is done. Casting of the coins themselves is not involved.

The dies are probably steel dies and once a steel die or a steel hub is made it can be readily transferred back and forth, as you know. The question is, how a steel die or hub could be made from a coin which is too rare to destroy or damage.

In precision casting of small items, such as coin dies, we understand that you are "the experts" on investment casting with the use of various materials from plaster through ceramics, etc.

I am speculating that possibly a plastic negative of a coin was made and this negative used to make an impression in ceramic clay. When the ceramic is heated, the plastic volatilizes leaving a positive ceramic on to which steel could be poured to produce a die.

June 4, 1965

Messrs.
Don Allison and Dan Lamar

Investigations in numismatics are done as a public service by us and we would very much appreciate your suggestion as to how these dangerous forgeries in silver and gold are produced from dies.

To show you the sincerity of our work, we are enclosing an article which I wrote, recently, involving Benjamin Franklin's invention relating to precision casting of leaves and cloth for preventing counterfeiting of paper money.

I hope you will be able to help me untangle the puzzle as to forged coin dies.

Sincerely yours,

ERIC P. NEWMAN NUMISMATIC
EDUCATION SOCIETY

EPN/atb

THE CINCINNATI MILLING MACHINE CO.
CINCINNATI, OHIO 45209

June 7, 1965

Mr. Eric P. Newman
Eric P. Newman Numismatic Education Society
6450 Cecil Avenue
St. Louis 5, Mo.

Dear Mr. Newman:

Your letter of June 2, 1965, regarding the invention of the automatic crossfeed on a lathe, has been received. While the entry of our company into the lathe field took place only some 15 or 20 years ago, I have done a little research on the subject which may be of interest to you.

We have in our library a copy of Robert S. Woodbury's History of the Lathe to 1850, published by Society for the History of Technology, Cleveland 6, Ohio, c1961, which discusses the automatic crossfeed feature on page 115. According to this reference, the automatic crossfeed feature was described in British Patent No. 6850 of 1835. We do not have a copy of this patent in our file, but a copy can be obtained for $1.00 from Derwent Publications Ltd., Rochdale House, Theobalds Road, London, W.C.1, England, or perhaps you can find one in a Public Library in this country, or by writing to the U. S. Patent Office in Washington.

If the source of Mr. Woodbury's information is authoritative (Die Entwicklung der Drehbank by Karl Wittmann, Berlin, 1941), this would mark the beginning or the inception of the use of an automatic crossfeed on a turning lathe.

I hope the foregoing information will be of help to you in your numismatic research.

Very truly yours,

Howard T Keiser

Howard T. Keiser,
Patent Counsel

June 15, 1965

Mr. Don Allison
LaDonn Castings
12337 Branford
Sun Valley (Burbank), California

Dear Mr. Allison:

Pursuant to our telephone conversation, I am enclosing herewith two 1853 $20 U.S.Assay Office gold coins. Please be very careful in handling them.

I understand that you will be able to measure them in great detail between corresponding points and by virtue thereof will be able to tell whether the die from which one of them was struck was produced by casting. If the die were made of beryllium copper, or some other metal, would this also be true as it is in the case of steel?

Please refer to the two pieces as No. 5, being the shiny one, and No. 13, as the dull one. I am not disclosing which one is subject to suspicion but one is genuine and one is under suspicion.

You also stated that you would like to make for me a step-by-step exhibit of the process by which a coin can be counterfeited from a genuine coin. In order to do this and to have it strictly "legal", I am enclosing two coins for you to work with; a 1787 Fugio Cent and a 1788 Massachusetts half cent.

You stated that the worst that would happen to these coins is that they would be coated with wax and would otherwise not have their surfaces or body affected by the counterfeiting process.

You are indeed performing a service which will be appreciated by many and I look forward to a written report on the two gold pieces as well as the play-by-play counterfeiting process.

Please apologize to Mr. LaMar Daniels for my reversal of his name. Apparently the man who gave me his name had a negative instead of a positive impression.

Please return all of the enclosed coins when they have served your purpose and thank you, so much, for your wholehearted cooperation and interest in the problem.

Sincerely yours,

ERIC P. NEWMAN NUMISMATIC
EDUCATION SOCIETY

EPN/atb

Registered mail;
Return Receipt Requested

June 21, 1965

Mr. Don Allison
LaDona Castings
12337 Branford
Sun Valley (Burbank), California

Dear Mr. Allison:

I was talking to a dentist who actively engages in casting research techniques and he assures me that by heating wax to 100° and by using plasters which expand, he can make a mold which compensates for the metal shrinking. I presume you know all this, but wonder if it has application to the materials necessary to make a die.

His castings, of course, have to be polished, which would be impossible in casting coins.

I look forward to hearing from you.

Sincerely yours,

ERIC P. NEWMAN NUMISMATIC
EDUCATION SOCIETY

EPN/atb

August 18, 1965

Mr. Don Allison
LaDonn Castings
12337 Brandford Street
Sun Valley (Burbank), California

Dear Mr. Allison:

Thank you, very much, for returning the two United States Assay Office $20 gold pieces. I am looking forward to the measurements which you made with respect to them which you can send me when you return from your vacation. You indicated you would have no difficulty in making up a report of that nature.

I am also looking forward to the completion of a step-by-step example of precision casting from one of the other early American pieces I forwarded to you.

You may be interested to know that I am meeting with the Secret Service, in Paris, in a few days, and discussing the methods by which forgeries of rare American coins are being made in Europe.

Again, accept my sincerest thanks and appreciation for your hard work and interest in this project.

Sincerely yours,

ERIC P. NEWMAN NUMISMATIC
EDUCATION SOCIETY

EPN/alb

Dear Mr. Newman:

The enclosed article may be of value to you, so I made a copy of it for you. This is a short explanation of the electroplating process to which I was referring in our phone conversation Wednesday.

Yours Truly:

Bob Lamping

Modern Engineering

April 4, 1966

Mr. Don Allison
LaDonn Castings
12337 Bran~~d~~ford St.
Sun Valley (Burbank,) California

Dear Mr. Allison:

I merely want to express my appreciation of your willingness to turn over the reproduction of the coin I sent you to one of your associates. I would prefer that the copy be made of the Fugio Cent.

You indicated you were going to make the dies and then back up the process to show the steps along the way. Whichever way it is done I am sure it will be very important to have this data for a physical examination.

Your cooperation is really important and most appreciated.

Cordially,

ERIC P. NEWMAN NUMISMATIC
EDUCATION SOCIETY

EPN/atb

April 18, 1966

Thompson Products
(TRW, Incorporated)
23555 Euclid Avenue
Cleveland, Ohio

Attention: Mr. Reedy

Gentlemen:

Pursuant to our telephone conversation, today, I would be most appreciative if you could give me the present address of Mertronics, which you indicate controls the Mercast process.

I would also be interested in having the various patent numbers for casting with the use of frozen mercury.

If, perchance, you know approximately when The Atlas Corporation sold their interest in Mertronics, that would also be helpful.

Your cooperation will be most appreciated.

Sincerely yours,

ERIC P. NEWMAN NUMISMATIC
EDUCATION SOCIETY

EPN/atb

TRW INC.

OFFICE OF COUNSEL

April 29, 1966

Mr. Eric P. Newman
Eric P. Newman Numismatic
Education Society
6450 Cecil Avenue
St. Louis 5, Missouri

Dear Mr. Newman,

In response to your letter of April 18 which has just been received, the following are the unexpired patents relating to the frozen casting process:

2,790,218
2,790,219
2,790,722
2,820,265
2,820,266
2,820,268

The principal patent, No. 2,400,831, expired on May 21, 1963.

Mertronics' address is as follows:

Mertronics Corporation
2330 Michigan Avenue
Santa Monica, California.

Very truly yours,

TRW Inc.

E. H. Reading

E. H. Reading - Counsel

EHR/dt

23555 EUCLID AVENUE · CLEVELAND, OHIO 44117

July 25, 1966

Mr. Don Allison
LaDonn Castings
12337 Branford St.
Burbank (Sun Valley), California

Dear Mr. Allison:

HELP!

I am being asked to testify in a matter involving the United States Assay Office gold coins on August 15, 1966.

I had hoped by now that you would have had the wax negative and the ceramic mold and, perhaps, a die made up for me from the coins which I sent you. Is it possible that you could have that done in time so that I can bring them with me? Please favor me with your prompt cooperation.

Up to now you have been patient with me but now I really need your specific help. You said you had assigned the task to someone else.

Cordially,

ERIC P. NEWMAN NUMISMATIC
EDUCATION SOCIETY

EPN/atb

August 23, 1966

Mr. Don Allison
LaDonn Castings
12337 Branford St.
Burbank (Sun Valley), California

Dear Don:

The hearing before an Arbitration Committee of the Professional Numismatists Guild and involving the United States Assay Office gold $20 pieces of 1853 was held in Chicago and further evidence is to be submitted and further arguments heard.

I was disappointed beyond measure that the physical samples of the manner of reproducing coins was not made available to me but now it may be more effective if presented as sort of a second attack.

You promised that by August 12 I would have the various stages of production of the coin type I sent you but apparently this was not accomplished. I now must plead, beg, and hope that you will, as promptly as you can, send me each of the various stages of the production of a die or pair of dies. This is so necessary. Your cooperation will be most appreciated.

I thought you might be interested in knowing that officials of the United States Government are very much interested in this proceeding.

Sincerely yours,

ERIC P. NEWMAN NUMISMATIC
EDUCATION SOCIETY

EPN/atb

December 20, 1966

Mr. Don Allison
LaDonn Castings
12337 Branford St.
Burbank (Sun Valley), California

Dear Don:

I forgot to thank you for sending me the casting elements and I do so now.

I am wondering if you would tell me whether the copper core is beryllium copper and whether it has been hardened. That would be important to me.

As you told me, a long time ago, the wax molds are not top quality and result in the type of casting which leaves a rough surface. Coins made from dies produced from such molds would be very easy to distinguish. You said, however, that by a vacuum method the quality of the molds would be highly improved.

With respect to the coins which you still have on hand and if you want to return them, you may do so. If you would enjoy having those or some other souvenir, please let me know.

I am certainly grateful for all of the education you gave me in precision casting technique and will give you full credit when this matter is eventually written up.

My best greetings for the Holidays.

Sincerely yours,

ERIC P. NEWMAN NUMISMATIC
EDUCATION SOCIETY

#3382 U.S. Assay Office
#46/501
sold by $1,470
7/2/13

[illegible] [illegible] [illegible]
[illegible] [illegible] [illegible]
[illegible] [illegible]
[illegible] [illegible]
CALIFORNIA

L Harold Spadley – Comments on Proof Bar.
Mar. 1967

1 IN = 7.35 cm
1 IN = 15.05

POINTS OF IDENTIFICATION

$20 1553 # 14 AND ASSAY BAR — SCALE IS IDENTICAL!

1. LUMP UNDER 1st S in ASSAY IS IDENTICALLY PLACED WITH HEAVIEST PART OF DIE BREAK (# 13 AND # 14).
2. REMNANTS OF DIE BREAK ARE VISIBLE
   a. OFF TIP OF 1ST A in ASSAY
   b. OFF UPPER LEFT SERIF OF L IN GOLD
   C. AT LOWER EDGE OF L IN GOLD
   D. IN FIELD BELOW L IN GOLD
3. LUMP BESIDE I IN UNITED HAS BEEN PARTIALLY REMOVED.

Moog Industries

5/26/67

Copy to: ENGINEERING ☐ PURCHASING ☐

Mr. Clarence Stage

Mr Ernest Kottkamp

W. A. Scheublein

XLO Contour Project
30" screen
20 to 1 magnification

INSPECTION REPORT

Date Received:

Part No:

Dept:

Part Name:

Manu:

Purchase Order No:

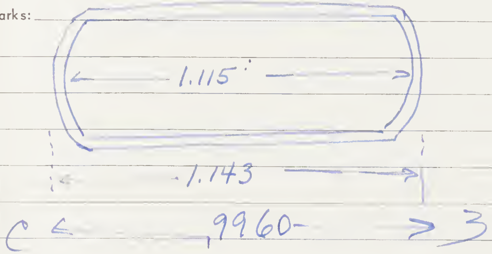
Quantity Received:

Checker:

Quantity Checked:

Accepted ☐ Rejected ☐

Remarks:



Kagin #16

Newman #

← 1.095 →

← 1.145 →

outside of 3 to outside of C .9925

Date:

Signed:

FORM 861A Rev. 8/60

Copy to: ENGINEERING ☐ PURCHASING ☐

INSPECTION REPORT

Date Received:

Part No:

Dept:

Part Name:

Manu:

Purchase Order No:

Quantity Received:

Checker:

Quantity Checked:

Accepted ☐ Rejected ☐

Remarks:

C to 3 .9905 Kagin genuine # marked nick

C to 3 .9974 Forman #14

C to 3 .9924 Kagin # genuine new one

C to 3 .9978 Second Forman-Batchelder piece

C to 3 9925 Newman # 2

Date:

Signed:

FORM 861A Rev. 8/60

At 58 [illegible] [illegible]

#11	[illegible]	[illegible]
#13	1.1420	1.1449
#17	1.1417	1.1415
#19	1.1444	1.1412
#21	1.1440	1.1457
#15	1.1424	1.1407
#17	[illegible]	1.1442

[illegible] Smith
[illegible] [illegible] [illegible] [illegible] 5/6/67
[illegible]